<b>Work Ord</b> September-13-1						Page 1					
Item ID: Revision ID: Item Name: Start Date:	D3943-053  Chain Assemb	oly Start Qty: 2.00	*2*	Accept	*N900		100	)* s	Setup Star Stop	1 /1	S1* S2*
Required Date: Reference:		Req'd Qty: 2.00	*2*		Cust Item II Customer:	บ:					
Approvals:		in: MLJ			Da		R	tun Star Stop	" <b>[\]</b>	R1*	
	QC:		Date:	_ SPC (Y/N):	Da	ite:			,	*N	R2*
Sequence ID/ Work Center I	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool#	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Rev	ision Nbr	111111111111111111111111111111111111111								
D3943	Е										
100		Weld per dwg A/R S.S	rod Batch: M1250	35¥ 0.00						1001	
*100* Large Fab		Memo		0.00				_5_	<u></u>	13-	//-//_
Large Fab		ASSEMBL	E WITH CHAIN BEFORE	E WELDING							
110		QC9- Inspect visual per	QSI004- Fusion Welds	0.00							DAG DAG
*110* QC		Memo		0.00					)B	-11.11 f	<b>№ 09</b>
Quality Control								•			
120		QC5- Inspect part comp	leteness to step on W/O	0.00							DAS
*120* QC		Мето		0.00					5) B	-11-11	

Quality Control

												DQA:	D	ate:	
NCR:	Yes	/ No				WORK ORDER NON-C	O	VFORM	MANCE / UP	DATE			_		
												QA Closed:	D	ate:	
Work Ord	er.					DISPOSITION				AGAINST I	DΕΙ	PARTMENT	PROCESS		
Work Ord	٠, .					Rework	1		Skid-tube	Crosstube			Water Je	t∏	Engineering
Part I	No.					Scrap	1		Machining	Small Fab		Pro	d. Eng. Coor		Quality
	•					Use-as-is	1	Therm	noforming	Finishing		Rec/Stor	e/Packaging	g	Other
NCR I	No.		•			Work Order Update	1		Large Fab	Composite			Supplie	r	
Root						ption of work order update	1	Initial		tion		Sign &		ļ	
Cause		Date	Step	Qty	(	or Non-conformance	Ch	nief Eng	Desc	ription		Date	Verificati	on	QC Inspector
Doc/Data	Ш													ļ	
Equip/Tooling	Ш	•												ŀ	
Operator	Ш													ļ	
Material	Щ								1						
Setup	Н													,	
Other	Н												:		
Process	Н														
Supplier	Н														
Training	Н														
Unapproved			]	<u> </u>	<u> </u>	<u> </u>		LT CATE	CORY						
Landi						General	AUI	LICATE	<del>JON 1</del>				<del></del>		<del></del>
Landi		g Gear Bending Ben				Bend	$\overline{}$	Grain		ſ		Ovalized			Pressure/Forced
	Centre Not Concentric to O/S				0/5	BOM/Route		Hardwa	iro			Over/Under	tolerance	$\vdash$	Temperature/Cure
	$\vdash$	Cracks	Je Concei	ici ic to	```	Broken/Damaged	$\vdash$	4	ion Incomplete	ł		Part Incorre			Weld
	H	ł	Crimped			Burrs	$\vdash$	4	tions Incomplete/	'Unclear	Part Lost/Missing			Wrong Stock Pulled	
	Crushed/Crimped. Cuffs				Contamination	Maintenance				Part Moved			L	]	

Mislabeled

Out of Calibration

Out of Sequence

Outside Dimensions

Misread

Offset

Positioned Wrong

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Heat Treat

Inspection Strip in Tube

Torque Waves in Extrusion

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Ord September-13-1				*90	145*							Page	e 2
Item ID: Revision ID:	D3943-053	;		Accept	*N900	040	100	)*	Setup S	tart	*N	S1*	
Item Name:	Chain Asser	nbly							S	top	*N	S2*	
Start Date: Required Date:	9/07/12	Start Qty: 2.00 Req'd Qty: 2.00	*2 <sup>*</sup>		Cust Item I Customer:	D:							
Reference:					Customer.								
Approvals:	Process P	lan:	Date:	Tooling:	Da	ate:		]		tart top	*N	R1*	•
	QC:		_ Date:	Date:							*N	R2*	<b>;</b>
Sequence ID/ Work Center I	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty		Reject Number	Insp. Stamp	
130 <b>*130*</b> Powdercoat		Hybrid safety Yellow 4.: MIG399 Memo	3.5.12	0.00				5	J F	<u>3-//</u>	'- <del>20</del> .		DAS 34 9-89
Powder Coating		1- MASK C DWG 2- POWDE Start Timez Oven Temp Finish Time	RACATI Grature: 300	POINT ON PRIOR TO pow DA 2	NS			·					9-89
140		QC3- Inspect Part Finish	1	0.00	8 <del>9</del>								
*140* QC Quality Control		Memo	•	0.00 Bl	128							-	_
150		Identify as per dwg & St	ock Location: W	<u>/</u> 6 0.00				_					
*150* Packaging		Memo	109	0.00				_5_		2	3-//	-21	_

Packaging

		DQA:	Date:	
ICD: V / N-	MODE ODDED NON-CONFORMANCE / LIDDATE			

										QA Closed:	Date	:
Work Orde	r:	·			DISPOSITION				AGAINST DE	PARTMENT/	PROCESS	
Part N					Rework Scrap			Skid-tube Machining	Crosstube Small Fab	Proc	Water Jet	Engineering Quality
raitiv	·				Use-as-is	┨.		noforming	Finishing		e/Packaging	Other
NCR N	0				Work Order Update			Large Fab	Composite	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Supplier	
Root				Descri	ption of work order update	lni	itial	Act	ion	Sign &		
Cause	Date	Step	Qty		or Non-conformance	Chie	f Eng	Descr	ription	Date	Verification	QC Inspector
Doc/Data												
Equip/Tooling		I										
Operator												
Material												
Setup												
Other				٠.								
Process												
Supplier												
Training												
Unapproved			<u> </u>									
					F.	AULT	CATE	GORY	· · · · · · · · · · · · · · · · · · ·			
Landin	g Gear				General					•	_	
	Bending				Bend		Grain		L	Ovalized		Pressure/Forced
	Centre No	ot Concei	ntric to	o/s	BOM/Route	Щн	lardwa	re		Over/Under	tolerance	Temperature/Cure
	Cracks				Broken/Damaged		nspecti	on Incomplete		Part Incorre	ct _	Weld
	Crushed/Crimped.			<u> </u>	Burrs		nstruct	ions Incomplete/U	Jnclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuffs				Contamination	∐^	⁄lainte	nance		Part Moved		
	Heat Treat				Countersink	<b>∐</b> ^	∕iislab∈	eled		Positioned V	Vrong _	· <b>-</b>
	Inspection Strip in Tube			Cut Too Short	<u></u>	∕isread	i		Power Loss/	Surge	Other	
	Ripples in Bend			Drill Holes		Offset			1.0			
	Torque Waves in Extrusion			Drawing		Out of (	Calibration					
	Turning Sequence			Finish		Out of 9	Sequence					
ſ	Wave/Twist in Tube			Folio		Outside	Dimensions					

<b>Work Ord</b> September-13-1.				*901	145*						Page 3
Item ID: Revision ID: Item Name:	em Name: Chain Assembly			Accept	*N900	040 <i>°</i>	100³	k Set	up Star Stop	1/1	S1* S2*
Start Date: Required Date: Reference:	9/07/12 10/12/12	Start Qty: 2.00 Req'd Qty: 2.00	*2* *2*		Cust Item II Customer:	D:					<del>-</del>
Approvals:	Process Pla	an:	Date:	Tooling: SPC (Y/N):		te:		Ru	n Star Stop	I <b>Z</b> I	R1* R2*
Sequence ID/ Work Center II 160 *160*	D	Operation Description QC21- Final Inspection	- Work Order Release	Set Up/ Run Hours 0.00	Tool ID			_	Reject Qty	Reject Number	Insp. Stamp

0.00

Memo

Quality Control

A) / Pl 13-11-22

		DQA:	Date:	
NCP: Vos / No	WORK ORDER NON-CONFORMANCE / LIPDATE			

NCR: \	⁄es	/ No				WORK ORDER NON-C	LON	NFORI	MANCE / UPDATE		QA Closed:	Dat	e:	
Mork Ord	~ · ·					DISPOSITION			AGAINST	DE	PARTMENT/	PROCESS		
Work Orde	-					Rework Scrap Use-as-is		Thern	Skid-tube Crosstube  Machining Small Fab  noforming Finishing		ł	Water Jet d. Eng. Coor. e/Packaging		Engineering Quality Other
NCR 1	۷o. <sub>-</sub>					Work Order Update	J		Large Fab Composite	:L_		Supplier		
Root		Date	Step	Qty		ption of work order update or Non-conformance	1	nitial ief Eng	Action Description		Sign & Date	Verification	$\int$	QC Inspector
Cause	-1	Date	Step	Qty	`	or Non-comormance	-	ICT LITE	Description		- Butte	Vermedero	$\dashv$	Qo mapeeto.
Doc/Data	$\vdash$													
Equip/Tooling	$\vdash$		]									·		
Operator Material	$\vdash$												ļ	
Setup	Н													
Other	Н												- [	
Process	Н											-		
Supplier	H													
Training	H													
Unapproved	Н													
			-	·	•		AUL	T CATE	GORY					
Landi	ng (	Gear				General		•						
		Bending				Bend		Grain			Ovalized			Pressure/Forced
	П	Centre No	ot Conce	ntric to	o/s	BOM/Route		Hardwa	are		Over/Under	tolerance		Temperature/Cure
		Cracks				Broken/Damaged		Inspect	ion Incomplete		Part Incorre	ct		Weld
		Crushed/Crimped.				Burrs		Instruct	tions Incomplete/Unclear		Part Lost/M	issing		Wrong Stock Pulled
	Cuffs			Contamination		Mainte	enance		Part Moved		_			
1	Heat Treat			Countersink		Mislabe	eled		Positioned V	Vrong				
		Inspectio	n Strip in	Tube		Cut Too Short	Misread				Power Loss/	Surge		Other
				Drill Holes		Offset								
	Torque Waves in Extrusion			Drawing		Out of	Calibration							

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Finish Folio

Page 1

Work Order ID:

90145

Parent Item:

D3943-053

Parent Item Name:

Chain Assembly

**Start Date:** 9/07/12

Required Date: 10/12/12

Start Qty: 2.00

Required Qty: 2.00

Comments:

IPP RevA: add DEO DD 09.11.18 verified by:JLM

IPP Rev:B as per dwg REV.C DD

10.02.22 verified by:EC IPP rev C 11.05.24 ECN 11-578 ec verified by:DD REV:D 11.08.16 AS PER REV E DD VERE:ILM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3954-5 Chain Lug		Manufactured	No			100	Each	3.0000	1 .	A 13-	-11-11		
		101837	x S	Location GA 8442	5	Loc Otv 3 3	Lo	c Code			·		
<b>D3954-9</b> GWT Chain Pin		Manufactured	No			100	Each	8.0000	1	Z 2	13-11-11		
				Location		Loc Oty	Lo	c Code					
				ST075		8							
	•			7187	6	8							

71754 75

												DQA:	Da	ate: _	
NCR: Y	'es	/ No				WORK ORDER NON-C	O	NFORM	MANCE / UP	DATE			_		
												QA Closed:	υ	ate:	
Work Orde	ır.					DISPOSITION				AGAINST D	EF	PARTMENT	PROCESS		
WOIK Olde	-					Rework	1		Skid-tube	Crosstube	٦		Water Jet	tП	Engineering
Part N	J۸					Scrap			Machining	Small Fab	٦	Pro	d. Eng. Coor	-	Quality
	-					Use-as-is			noforming	Finishing	$\dashv$		e/Packaging		Other
NCR N	lo.					Work Order Update			Large Fab	Composite			Supplie	-	
	_					· <u> </u>	'		·						
Root					Descri	ption of work order update	Ī	nitial	Ac <sup>-</sup>	tion		Sign &			
Cause	1	Date	Step	Qty	(	or Non-conformance	Ch	ief Eng	Desc	ription		Date	Verification	on	QC Inspector
Doc/Data														Ì	
Equip/Tooling								•						- 1	
Operator															
Material	$\Box$														
Setup															
Other															
Process															
Supplier	Ц														
Training	Ш													í	
Unapproved	Ш				<u> </u>										
							AUL	T CATE	GORY						
Landi						General	_	٦		Г	_	1		_	1
	-	~ ~ <del>   </del>				Bend	<u> </u>	Grain		-		Ovalized		$\vdash$	Pressure/Forced
	Centre Not Concentric to O/S BOM/Route			<b>-</b>	<u>_</u>	Hardwa		-		Over/Under		<u> </u>	Temperature/Cure		
	Cracks Broken/Damaged		┥ ゙		4 '	ion Incomplete		Part Incorrect			<u> </u>	Weld			
	-	Crushed/0	Crimped.			Burrs	_	4	ions Incomplete/	Unclear	Part Lost/Missing			Wrong Stock Pulled	
1	1 h	Cuffs	S Contamination Maintenance					Part Moved							

Mislabeled

Out of Calibration

Out of Sequence

Outside Dimensions

Misread

Offset

Positioned Wrong

Power Loss/Surge

Other

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Heat Treat

Inspection Strip in Tube

Torque Waves in Extrusion

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

Folio

1		ITEM No.	QTY -041	QTY -051	QTY -053	PART NUMBER	DESCRIPTION	PREFERED SUPPLIER	Γ
5		1	х			D3943-041	GROUND HANDLING CRANK ASSEMBLY		ł
D 11		5	1	Х		D3943-051			ł
12 1 D3943-3 HANDLE EXTENSION  13 1 D3943-5 PLATE  14 2 D3943-7 STUD  15 1 D3943-9 CHAIN USE CHAIN SUPPLIED WITH ITEM 39  16 1 D4405-1 EYE AND FORK SWIVEL  21 1 D2690-4 LANYARD  22 1 D3943-9 SET SCREW  23 1 D3949-041 REMOVE BEFORE FLIGHT FLAG  24 1 D3954-5 CHAIN LUG  25 1 D3954-7 RATCHET LUG  26 1 D3954-9 GWT CHAIN PIN  31 1 AN5-11A BOLT  32 1 AN960-516 WASHER  33 1 MS21042L5 NUT  39 1 8143919 LEVER CHAIN HOIST (POWER FIST) PRINCESS AUTO / 4000 lbs CAPACITY  51 1 S-1475 SPRING REID SUPPLY  52 1 3408A59 BALL PLUNGER MMANSTER CARR  53 11 HX-15 SOCKET HEAD CAP SCREW \$\frac{1}{2} - 20 UNC X 0.75 LG MASKINS		6	1		Х	D3943-053	CHAIN ASSEMBLY		1
12 1 D3943-3 HANDLE EXTENSION  13 1 D3943-5 PLATE  14 2 D3943-7 STUD  15 1 D3943-9 CHAIN USE CHAIN SUPPLIED WITH ITEM 39  16 1 D4405-1 EYE AND FORK SWIVEL  21 1 D2690-4 LANYARD  22 1 D3943-9 SET SCREW  23 1 D3949-041 REMOVE BEFORE FLIGHT FLAG  24 1 D3954-5 CHAIN LUG  25 1 D3954-7 RATCHET LUG  26 1 D3954-9 GWT CHAIN PIN  31 1 AN5-11A BOLT  32 1 AN960-516 WASHER  33 1 MS21042L5 NUT  39 1 8143919 LEVER CHAIN HOIST (POWER FIST) PRINCESS AUTO / 4000 lbs CAPACITY  51 1 S-1475 SPRING REID SUPPLY  52 1 3408A59 BALL PLUNGER MMANSTER CARR  53 11 HX-15 SOCKET HEAD CAP SCREW \$\frac{1}{2} - 20 UNC X 0.75 LG MASKINS			L						1
12	D	11		1		D3943-1	HANDLE	M/F HANDLE FROM DIS-ASSEMBLED ITEM 39	1
13		12	1			D3943-3	HANDLE EXTENSION		L/
15		13		1		D3943-5	PLATE		۲f
1		14	L	2		D3943-7	STUD		Ш
21 1 D2690-4 LANYARD 22 1 D3585-1 SET SCREW 23 1 D3949-041 REMOVE BEFORE FLIGHT FLAG 24 1 D3954-5 CHAIN LUG 25 1 D3954-7 RATCHET LUG 26 1 D3964-9 GWT CHAIN PIN  31 1 AN5-11A BOLT 32 1 AN960-516 WASHER 33 1 MS21042L5 NUT  39 1 8143919 LEVER CHAIN HOIST (POWER FIST) PRINCESS AUTO / 4000 lbs CAPACITY  51 1 S-1475 SPRING REID SUPPLY 52 1 3408A59 BALL PLUNGER McMASTER CARR 53 1 HX-15 SOCKET HEAD CAP SCREW \$\frac{1}{4}-20 UNC X 0.75 LG HASKINS		15			1	D3943-9	CHAIN	USE CHAIN SUPPLIED WITH ITEM 39	1
22   1		16			1	D4405-1	EYE AND FORK SWIVEL		1
22   1					<u> </u>				1
23   1		21	1			D2690-4	LANYARD		1
24		22	1	<u> </u>		D3585-1	SET SCREW		1
25 1 D3954-7 RATCHET LUG 26 1 D3954-9 GWT CHAIN PIN  31 1 AN5-11A BOLT 32 1 AN960-516 WASHER 33 1 MS21042L5 NUT  39 1 8143919 LEVER CHAIN HOIST (POWER FIST) PRINCESS AUTO / 4000 lbs CAPACITY  51 1 S-1475 SPRING REID SUPPLY 52 1 3408A59 BALL PLUNGER McMASTER CARR 53 1 HX-15 SOCKET HEAD CAP SCREW \$\frac{1}{4}-20 UNC X 0.75 LG HASKINS		23	1			D3949-041	REMOVE BEFORE FLIGHT FLAG		1
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C 31 1 AN5-11A BOLT 32 1 AN960-516 WASHER 33 1 MS21042L5 NUT 39 1 8143919 LEVER CHAIN HOIST (POWER FIST) PRINCESS AUTO / 4000 lbs CAPACITY 51 1 S-1475 SPRING REID SUPPLY 52 1 3408A59 BALL PLUNGER McMASTER CARR 53 1 HX-15 SOCKET HEAD CAP SCREW \$\frac{1}{4}-20 UNC X 0.75 LG HASKINS		25	1			D3954-7	RATCHET LUG		1
31   1	_	26			1	D3954-9	GWT CHAIN PIN		1
32 1 AN960-516 WASHER 33 1 MS21042L5 NUT  39 1 8143919 LEVER CHAIN HOIST (POWER FIST) PRINCESS AUTO / 4000 lbs CAPACITY  51 1 S-1475 SPRING REID SUPPLY 52 1 3408A59 BALL PLUNGER McMASTER CARR 53 1 HX-15 SOCKET HEAD CAP SCREW \$\frac{1}{4}\text{-20 UNC X 0.75 LG}\$ HASKINS	С								
33 1 MS21042L5 NUT  39 1 8143919 LEVER CHAIN HOIST (POWER FIST) PRINCESS AUTO / 4000 lbs CAPACITY  51 1 S-1475 SPRING REID SUPPLY  52 1 3408A59 BALL PLUNGER McMASTER CARR  53 1 HX-15 SOCKET HEAD CAP SCREW \$\frac{1}{4}\$-20 UNC X 0.75 LG HASKINS		31	1			AN5-11A	BOLT		1
39 1 8143919 LEVER CHAIN HOIST (POWER FIST) PRINCESS AUTO / 4000 lbs CAPACITY  51 1 S-1475 SPRING REID SUPPLY 52 1 3408A59 BALL PLUNGER McMASTER CARR 53 1 HX-15 SOCKET HEAD CAP SCREW \$\frac{1}{4}\$-20 UNC X 0.75 LG HASKINS		32	1			AN960-516	WASHER		1
SPRING   REID SUPPLY		33	1			MS21042L5	NUT		ı
SPRING   REID SUPPLY									ı
52         1         3408A59         BALL PLUNGER         McMASTER CARR           53         1         HX-15         SOCKET HEAD CAP SCREW \$\frac{1}{4}-20 UNC X 0.75 LG         HASKINS		39	1			8143919	LEVER CHAIN HOIST (POWER FIST)	PRINCESS AUTO / 4000 lbs CAPACITY	ı
52         1         3408A59         BALL PLUNGER         McMASTER CARR           53         1         HX-15         SOCKET HEAD CAP SCREW \$\frac{1}{4}-20 UNC X 0.75 LG         HASKINS	-								ı
53 1 HX-15 SOCKET HEAD CAP SCREW \$\frac{1}{4} - 20 UNC X 0.75 LG HASKINS							SPRING	REID SUPPLY	ı
SOCKET HEAD CAP SCREW 4-20 UNC X U.75 LG HASKINS							BALL PLUNGER	McMASTER CARR	İ
54 1 HX-16 SOCKET HEAD CAP SCREW \$\frac{1}{4} -20 UNC X 1.0 LG HASKINS							SOCKET HEAD CAP SCREW \$ -20 UNC X 0.75 LG	HASKINS	ĺ
		54	1			HX-16	SOCKET HEAD CAP SCREW 1-20 UNC X 1.0 LG	HASKINS	

SHOP COPY RETURN TO ENGINEERING UNCONTROLLED COPY SUBJECT TO AMENDMENT WITHOUT NOTICE WORK ORDER NO 90145 MLT 12-09-17

DELEASED 2011 -07- 29

В

CHANGED D3945-3 MAT'L TO SS (88-5); FINISH NOW "NONE" (A7-5); TAP DRILL FOR 1/4-20 UNF-2B WAS 11.07.27 PILOT HOLE NOTE (B1-5). PER PAR11-113. SHT 1 PL, ITEMS 51-54 RENUMBERED SEE PREV. REV. FOR DETAILS, ITEM 16 ADDED (VIEWS UPDATED). SHT 2 ZN D3 FLAG RELOCATED. SHT 3 ZONE D3, 11.05.16 Ø0.12 HOLE DELETED. (SEE NCR 11-495) RMV FINISH -041 (ZN A8-2), ADD NEW FINISH -051/-053/ -1/-3 (A8-3/-4/-5), ADD CALIBRATION (A8-2), (1) HX-16 CP 10.01.26 WAS HX-15 (B3-1, C3-1), PAR 10-001 SHT 1 PL, ITEM 31 WAS AN4-10A, ITEM 32 WAS AN960-416, ITEM 33 WAS MS21042-4, ITEM 43 WAS AJS 09.10.15 0.75 LG. SHEETS 2 - 5 NOTES: FINISH FOR ALL COMPONENTS NOW YELLOW SPRAY PAINT. NEW ISSUE AJS 09.05.13 REV. DESCRIPTION BY DATE DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DESIGN DRAWN CHECKED ASS DRAWING NO. REV. E MFG. APPR. D3943 SHEET 1 OF 5 APPROVED SCALE DE APPR. GROSS WEIGHT TOW CRANK ASSY NTS DATE COPYRIGHT © 2009 BY DART AEROSPACE LTD
MENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED OF THE COPRESS CONDITLUSED FOR ANY PURPOSE OR COMPANIOATED TO JAN OTHER PERS
WRITTEN PERMESSION PROVIDENT AFRICKANCE IT TO 11.07.27

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